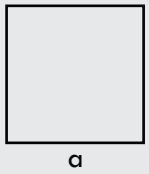
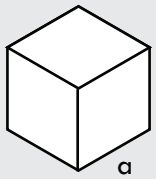
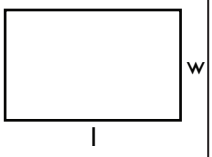
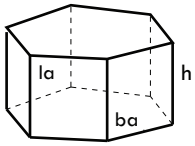
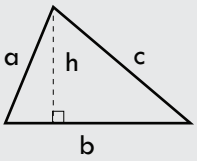
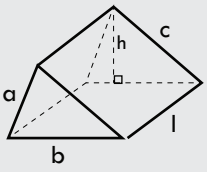
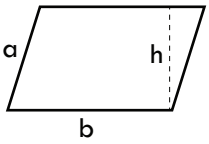
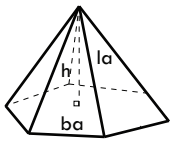
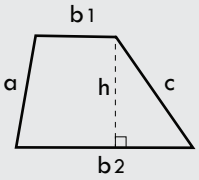
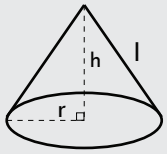
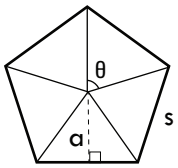
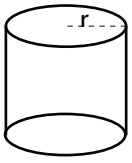
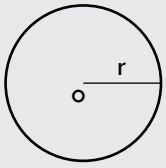
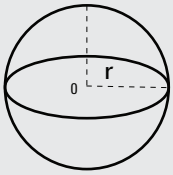
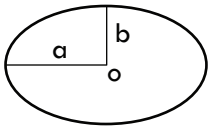
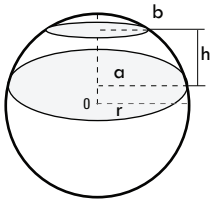
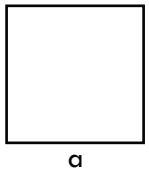
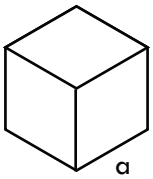
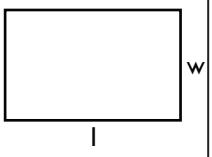
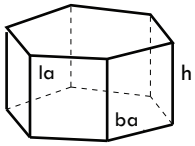
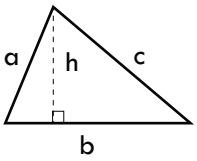
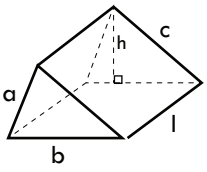
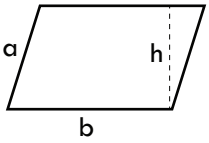
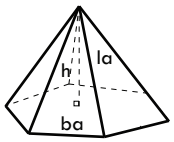
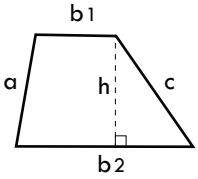
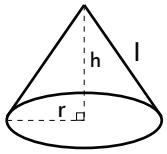
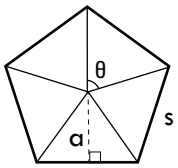
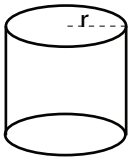
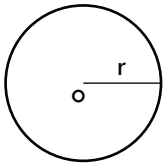
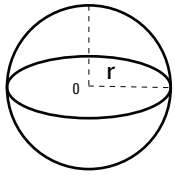
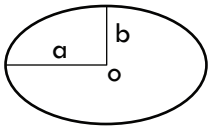
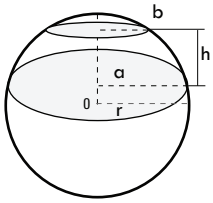
Perimeter, Area, Surface area & Volume

Two-dimensional shapes	**Perimeter** The sum of the measure of every side of a 2D shape. Units	**Area** The space covered by the two-dimensional geometric shape, in a plane. Units^2	Three-dimensional shapes	**Surface area** The sum of all the areas of all the shapes that cover the surface of the object. Units^2	**Volume** The quantity of three-dimensional space enclosed by a closed surface. Units^3
Square 	$P = 4 \times a$	$A = a^2$	Cube 	$SA = 6 \times a^2$	$V = a^3$
Rectangle 	$P = 2 \times (l + w)$	$A = l \times w$	Prism 	ba : base area la : lateral area $SA = 2 \times ba + la$	$V = ba \times h$
Triangle 	$P = a + b + c$	$A = 0.5 \times b \times h$	Triangular prism 	$SA = bh+la+lb+lc$	$V = 0.5 \times b \times h \times l$
Parallelogram 	$P = 2 \times (a + b)$	$A = b \times h$	Pyramid 	ba : base area la : lateral area $SA = ba + la$	$V = 1/3 \times ba \times h$
Trapezoid 	$P = a+ b1+ b2+c$	$A=0.5x(b1+b2)x\ h$	Cone 	$SA = \pi r^2 + \pi r l$	$V = \pi \times r^2 \times h \times 1/3$
Regular polygon 	$P = n \times s$	a : apothem n : number of sides $A = 0.5 \times n \times s \times a$	Cylinder 	$SA = 2 \pi r h + 2 \pi r^2$	$V = \pi \times r^2 \times h$
Circle 	$C = 2 \times \pi \times r$	$A = \pi \times r^2$	Sphere 	$SA = 4 \times \pi \times r^2$	$V = 4/3 \times \pi \times r^3$
Ellipse 	$C = \pi \times (a + b)$	$A = \pi \times a \times b$	Spherical segment 	h : height of segment $SA=\pi(a^2+b^2+2r\ h)$	$V=1/6\ \pi\ h\ (3a^2 + 3b^2 + h^2)$

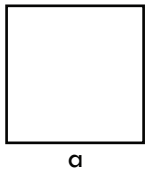
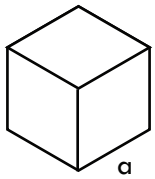
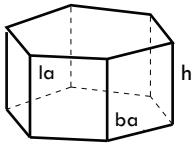
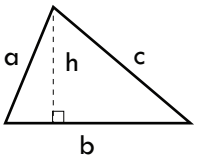
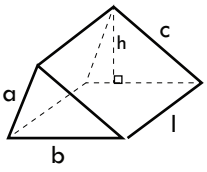
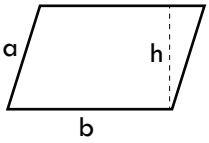
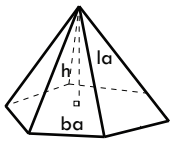
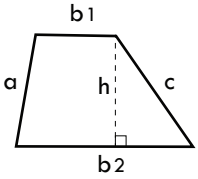
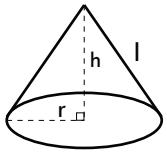
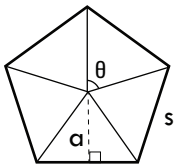
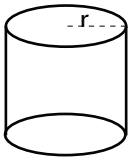
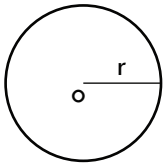
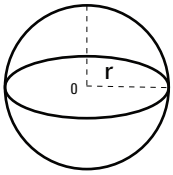
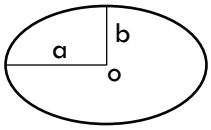
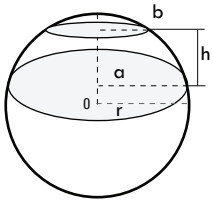
© Applied Math Studio

Perimeter, Area, Surface area & Volume

Two-dimensional shapes	**Perimeter** The sum of the measure of every side of a 2D shape. Units	**Area** The space covered by the two-dimensional geometric shape, in a plane. Units^2	Three-dimensional shapes	**Surface area** The sum of all the areas of all the shapes that cover the surface of the object. Units^2	**Volume** The quantity of three-dimensional space enclosed by a closed surface. Units^3
Square 	$P = 4 \times a$	$A = a^2$	Cube 	$SA = 6 \times a^2$	$V = a^3$
Rectangle 	$P = 2 \times (l + w)$	$A = l \times w$	Prism 	ba : base area la : lateral area $SA = 2 \times ba + la$	$V = ba \times h$
Triangle 	$P = a + b + c$	$A = 0.5 \times b \times h$	Triangular prism 	$SA = bh+la+lb+lc$	$V = 0.5 \times b \times h \times l$
Parallelogram 	$P = 2 \times (a + b)$	$A = b \times h$	Pyramid 	ba : base area la : lateral area $SA = ba + la$	$V = 1/3 \times ba \times h$
Trapezoid 	$P = a+ b1+ b2+c$	$A=0.5x(b1+b2)x\ h$	Cone 	$SA = \pi r^2 + \pi r l$	$V = \pi \times r^2 \times h \times 1/3$
Regular polygon 	$P = n \times s$	a : apothem n : number of sides $A = 0.5 \times n \times s \times a$	Cylinder 	$SA =2 \pi r h+2 \pi r^2$	$V = \pi \times r^2 \times h$
Circle 	$C = 2 \times \pi \times r$	$A = \pi \times r^2$	Sphere 	$SA = 4 \times \pi \times r^2$	$V = 4/3 \times \pi \times r^3$
Ellipse 	$C = \pi \times (a + b)$	$A = \pi \times a \times b$	Spherical segment 	h : height of segment $SA=\pi(a^2+b^2+2r\ h)$	$V=1/6\ \pi\ h\ (3a^2 + 3b^2 + h^2)$

© Applied Math Studio

Perimeter, Area, Surface area & Volume

Two-dimensional shapes	**Perimeter** The sum of the measure of every side of a 2D shape. Units	**Area** The space covered by the two-dimensional geometric shape, in a plane. Units^2	Three-dimensional shapes	**Surface area** The sum of all the areas of all the shapes that cover the surface of the object. Units^2	**Volume** The quantity of three-dimensional space enclosed by a closed surface. Units^3
Square 	$P = 4 \times a$	$A = a^2$	Cube 	$SA = 6 \times a^2$	$V = a^3$
Rectangle	$P = 2 \times (l + w)$	$A = l \times w$	Prism 	ba : base area la : lateral area $SA = 2 \times ba + la$	$V = ba \times h$
Triangle 	$P = a + b + c$	$A = 0.5 \times b \times h$	Triangular prism 	$SA = bh+la+lb+lc$	$V = 0.5 \times b \times h \times l$
Parallelogram 	$P = 2 \times (a + b)$	$A = b \times h$	Pyramid 	ba : base area la : lateral area $SA = ba + la$	$V = 1/3 \times ba \times h$
Trapezoid 	$P = a+ b1+ b2+c$	$A=0.5x(b1+b2)x\ h$	Cone 	$SA = \pi r^2 + \pi r l$	$V = \pi \times r^2 \times h \times 1/3$
Regular polygon 	$P = n \times s$	a : apothem n : number of sides $A = 0.5 \times n \times s \times a$	Cylinder 	$SA =2 \pi r h+2 \pi r^2$	$V = \pi \times r^2 \times h$
Circle 	$C = 2 \times \pi \times r$	$A = \pi \times r^2$	Sphere 	$SA = 4 \times \pi \times r^2$	$V = 4/3 \times \pi \times r^3$
Ellipse 	$C = \pi \times (a + b)$	$A = \pi \times a \times b$	Spherical segment 	h : height of segment $SA=\pi(a^2+b^2+2r\ h)$	$V=1/6\ \pi\ h\ (3a^2 + 3b^2 + h^2)$

© Applied Math Studio